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10/517,743	07/21/2005	Joerg Barthel	10191/3824	6130

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KENYON & KENYON LLP
ONE BROADWAY
NEW YORK, NY 10004

EXAMINER	
MALEK, LEILA	
ART UNIT	PAPER NUMBER
2611	
MAIL DATE	DELIVERY MODE
02/04/2010	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/517,743	BARTHEL ET AL.	
	Examiner	Art Unit	
	LEILA MALEK	2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 November 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *15-19 and 21-33* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *15-19 and 21-33* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *04 September 2009* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's argument, see pages 6 and 9 of remarks, filed on 11/09/2009, with respect to the rejection(s) of claim(s) 28, 15, 17, 21, and 27 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Yamamoto et al. (US 2002/0052975).

2. Applicant's argument, see pages 7 and 8, has been fully considered but it is not persuasive.

Applicant's Argument: Applicant argues that claim 28 provides for "determining the sampling frequency of one of the data streams in the receiving device". The Min reference does not identically disclose this feature.

Examiner's Response: Examiner asserts that "determining" is a broad term and therefore in view of lack of any further details in the claim, Examiner has given this limitation its broadest reasonable interpretation. Min discloses "producing a decoder clock using the clock reference values contained in the data packets" (see paragraph 0006). Therefore Min is directed toward recovering clock reference values from the incoming data packets and using them to produce a decoder clock. Recovering the clock reference values has been broadly interpreted by the Examiner as determining the clock reference values. Furthermore, according to Min the clock reference values are synchronized with the sampling clock, therefore by recovering clock reference values the sampling frequency can also be recovered (determined).

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 28, 30-33, 15-19, and 27 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. As to claim 28, in the preamble Applicant refers to "A method for generating a counter in a receiving device for digital data streams". However in the body of the claim, there is no indication on how the counter has been generated. Claims 15-19, 27, and 30-33 depend on claim 28, therefore they are rejected as well.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 28, 15-19, and 27, 32, and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Min (US 2002/0063796), in view of Yamamoto et al. (hereafter, referred as Yamamoto) (US 2002/0052975).

As to claim 28, Min discloses a method comprising: generating digital data streams in a transmitting device (see paragraph 0006) by sampling data signals (see paragraph 0006, lines 6 and 7) at a sampling frequency synchronized by a system time

clock (see paragraph 0006, lines 4-7) in the transmitting device; determining the sampling frequency of one of the data streams (see paragraphs 0006, lines 7-11, here determining the sampling frequency is the same as recovering the 27MHZ decoder clock, because of the relationship between the encoder stable clock and the sampling frequency (see paragraph 0006, lines 4-7) and paragraph 0015) in the receiving device; and synchronizing the counter (see Fig. 1, block 3) with the determined sampling frequency of the one of the data streams (see Fig. 1, blocks 3, 1, 2, and 4 and paragraph 0021 and paragraph 0055). Min discloses all the subject matters claimed in claim 28, except that transmitter (or encoder inside the transmitter) samples analog signals at a sampling frequency synchronized with the system time clock (or time base of the system). Yamamoto, in the same filed of endeavor, discloses a transmitter and a receiver for transmitting and receiving video signals (see the abstract). Yamamoto teaches that in an MPEG system shown in Figs. 4 and 5, block 122 denotes an encoder for converting an analog video signal to a digital form (interpreted as sampling) (see Fig. 5 for structure of encoder in MPEG systems and paragraph 0106). Yamamoto further shows that the sampling clock of the encoder has been obtained form the system time clock generator 129 and therefore it is inherently synchronized with the system time clock. It would have been obvious to one of ordinary skill in the art at the time of invention to modify Min as suggested by Yamamoto to ensure that the data signal has been correctly sampled using a stable clock and enhance the sampling process.

As to claim 15, Min discloses setting an increment of the counter (see paragraphs 0021 and 0055). Min discloses that the decoder uses the first received PCR

value to set and initialize the STC counter (see paragraph 0021) increments the counter until it reaches the 27-MHZ value (see paragraph 0055) (i.e. the system time clock frequency and according to Yamamoto the sampling clock frequency). Min does not expressly disclose determining the increment from a ratio between a program clock reference (PCR) and the sampling frequency. However, it is extremely well known in the art that in order to reach a higher number (27-MHZ) from a lower number, the ratio of the higher number to the lower number can be obtained (since they are both known) and then the lower number can be multiplied by this ratio. It would have been obvious to one of ordinary skill in the art at the time of invention to use the above method to correctly obtain the 27-MHZ clock.

As to claim 17, Min discloses comparing an instantaneous presentation time stamp (PTS) of a packetized elementary data stream used to determine the sampling frequency with an instantaneous count of the counter (see paragraph 0021) and correcting the increment of the counter according to a comparison result (see paragraphs 0021 and 0055).

As to claim 27, Min discloses that the sampling frequency is determined from a selected packetized elementary data stream of different packetized elementary data streams (see paragraph 0011, the data stream associated with the first PCR value is interpreted as the selected packetized data stream); synchronizing all packetized elementary data streams with the counter (see paragraph 0010, last two lines).

As to claim 16, Min does not expressly disclose setting the increment to a constant value based on a nominal sampling frequency. However, it would have been

obvious to one of ordinary skill in the art at the time of invention to set the increment value to a constant value to make the calculations faster (i.e. without having very accurate measurements).

As to claim 18, Min does not disclose determining the sampling frequency from the data stream having the greatest sampling frequency of any of the available data streams. However, it is well known in the art from Nyquist criterion that a required sampling rate for sampling a signal of frequency f_0 is at least twice the frequency of the signal. Therefore, one of ordinary skill in the art would have been motivated to use a sampling rate which is at least twice the sampling rate of the highest frequency so as to cover the sampling rate requirement of the lower frequencies as well.

As to claim 19, Min discloses that the digital data streams are packetized elementary data streams (see paragraph 0007) that include video and audio data streams (see paragraph 0005) according to the Moving Picture Expert Group (MPEG) standard (see paragraph 0005). Min discloses all the subject matters claimed in claim 19, except that the audio and video signals are in compressed form, however, it would have been extremely well known in the art at the time of invention to compress the audio and video signals to save bandwidth in transmission (this limitation also taught by Yamamoto see paragraphs 0025, 0028).

As to claim 32, Min discloses that the transmission of the transmitting device comprises packetized elementary data streams and presentation time stamps (see paragraphs 0007 and 0019).

As to claim 33, Min does not disclose that the presentation time stamps indicate a time of transmission. However, it is a matter of design choice and it would have been obvious to one of ordinary skill in the art at the time of invention to assign the information regarding the transmission time to the time stamps to simplify the recovery of these information at the receiver.

5. Claims 29 and 21-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Min, in view of Duruoz et al (hereafter, referred as Duruoz) (US 6,363,207).

As to claim 29, Min discloses a flag extractor (i.e. the PTS detector) that identifies a presentation time stamp for the purpose of initializing a counter (see paragraph 0021); a unit for correctly determining a sampling frequency of one of the packetized elementary data streams (see paragraphs 0006, lines 7-11, here determining the sampling frequency is the same as recovering the 27MHZ decoder clock, because of the relationship between the encoder stable clock and sampling frequency (see paragraph 0006, lines 4-7)); and a synchronization unit for synchronizing the counter according to the sampling frequency (see Fig. 1, blocks 3, 1, 2, and 4). Min discloses all the subject matters claimed in claim 29, except for a transport data stream demultiplexer for demultiplexing a transport data stream into packetized elementary data streams and an output control unit for synchronizing data streams obtained from the packetized elementary data streams. Duruoz, in the same field of endeavor, discloses a receiver device (see the abstract), comprising: a transport data stream demultiplexer for demultiplexing a transport data stream into packetized elementary data streams (see the abstract and column 6, lines 43-45) and identifying a presentation

time stamp for the purpose of initializing a system time clock counter (see column 2, lines 14-16) and an output control unit for synchronizing data streams obtained from the packetized elementary data streams (see column 1, lines 38-40, column 2, lines 23-26, column 9, lines 28-42). It would have been obvious to one of ordinary skill in the art at the time of invention to modify Min as suggested by Duruoz to separate the audio and video signals in order to fully recover the transmitted signals and also it would have been obvious to synchronize the audio and video data streams so that there is a coordinated and coherent reproduction of the desired audio and video signals (see column 1, lines 39-42).

As to claim 21, Min discloses setting an increment of the counter (see paragraph 0021 and 0055). Min discloses that the decoder uses the first received PCR value to set and initialize the STC counter (see paragraph 0021) increments the counter until it reaches the 27-MHZ value (interpreted as nominal sampling frequency) (see paragraph 0055) (i.e. the system time clock frequency/sampling clock frequency). Min does not expressly disclose determining the increment from a ratio between a program clock reference (PCR) and the sampling frequency. However, it is extremely well known in the art that in order to reach a higher number (27-MHZ) from a lower number, the ratio of the higher number to the lower number can be obtained (since they are both known) and then the lower number can be multiplied by this ratio. It would have been obvious to one of ordinary skill in the art at the time of invention to use the above method to correctly obtain the 27-MHZ clock.

As to claim 22, Min does not expressly disclose setting the increment to a constant value based on a nominal sampling frequency. However, it would have been obvious to one of ordinary skill in the art at the time of invention to set the increment value to a constant value to make the calculations faster (i.e. without having very accurate measurements).

As to claim 23, Min discloses comparing an instantaneous presentation time stamp (PTS) of a packetized elementary data stream used to determine the sampling frequency with an instantaneous count of the counter (see paragraph 0021); and correcting the increment of the counter according to a comparison result (see paragraphs 0021 and 0055).

As to claim 24, Min discloses that the sampling frequency is determined from a selected packetized elementary data stream of different packetized elementary data streams (see paragraph 0011, the data stream associated with the first PCR value is interpreted as the selected packetized data stream); synchronizing all packetized elementary data streams with the counter (see paragraph 0010, last two lines).

As to claim 25, Min does not disclose determining the sampling frequency from the data stream having the greatest sampling frequency of any of the available data streams. However, it is also well known in the art from Nyquist criterion that a required sampling rate for sampling a signal of frequency f_0 is at least twice the frequency of the signal. Therefore, one of ordinary skill in the art would have been motivated to use a sampling rate which is at least twice the sampling rate of the highest frequency so as to cover the sampling rate requirement of the lower frequencies as well.

As to claim 26, Min discloses that the digital data streams are packetized elementary data streams (see paragraph 0007) that include video and audio data streams (see paragraph 0005) according to the Moving Picture Expert Group (MPEG) standard (see paragraph 0005). Min and Duruoz disclose all the subject matters claimed in claim 26, except that the audio and video signals are in compressed form, however, it would have been extremely well known in the art at the time of invention to compress the audio and video signals to save bandwidth in transmission.

6. Claims 28, 30, and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mesiwala (US 6,097,776), in view of McMillin (US 7,027,773).

As to claim 28, Mesiwala discloses a method comprising: determining the sampling frequency (see column 6, lines 5-7, determining the sampling clock has been interpreted as determining the sampling frequency) of one of the data streams (see column 5, lines 29-35) in the receiving device (see Fig. 7); and synchronizing the counter (see block 740) with the determined sampling frequency of the one of the data streams (see column 6, lines 7-8). Mesiwala discloses all the subject matters claimed in claim 28, except for generating the digital data stream in a transmitting device by sampling analog signals at a sampling frequency synchronized by a system time clock in the transmitting device. McMillin, in the same field of endeavor, (see column 10, lines 6-11, modem systems), discloses generating the digital data streams in a transmitting device by sampling (see column 11, lines 5-22) analog signals (see Fig. 5, A/D 560) at a sampling frequency synchronized by a system time clock (system clock has been interpreted as system time clock) in the transmitting device. It would have been obvious

to one of ordinary skill in the art at the time of invention to modify Mesiwala as suggested by McMillin to use the system time clock to sample the analog signals at the transmitter to reduce the cost of the device (see column 11, lines 16-22).

As to claim 30, Mesiwala teaches determining the sampling frequency of one of the data stream in the receiving device (see column 6, lines 5-7) is without the transmitter transmitting a value of the system time clock (Mesiwala instead discloses recovering the sampling clock using a pilot extraction algorithm).

As to claim 31, Mesiwala teaches that the counter (interpreted as system time clock counter) of the receiving device is controlled by the determined sampling clock (frequency) (see column 6, lines 5-8) without consideration of a received value of the system time clock of the transmitter (Mesiwala instead discloses recovering the sampling clock using a pilot extraction algorithm).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LEILA MALEK whose telephone number is (571)272-8731. The examiner can normally be reached on 9AM-5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad Ghayour can be reached on 571-272-3021. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Leila Malek
Examiner
Art Unit 2611

/L. M./
/Leila Malek/
Examiner, Art Unit 2611

/Mohammad H Ghayour/
Supervisory Patent Examiner, Art Unit 2611